



# NOAA's National Weather Service



## Our Employees' Safety and Environmental Newsletter for Work and Home



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## Earthquake Safety

### San Francisco –1906

On April 18, 1906, at 5:12 AM, one of the greatest natural disasters hit San Francisco, CA. A NOAA Report (1972), estimated property damage to be \$400M, in 1906 dollars. With the 100th year anniversary of this disaster, and a suggestion from NWS employee Dorothy Kelly, it was decided to include earthquake safety in this month's Newsletter.

While most people relate earthquakes to California or Alaska, earthquakes can occur anywhere in the United States.



Sacramento Street and approaching fire.  
Source: <http://quake.wr.usgs.gov/info/1906/>

### Definitions and Facts

**Aftershock**—An earthquake of similar or lesser intensity that follows the main earthquake.

**Earthquake**—A sudden slipping or movement of a portion of the earth's crust.

**Epicenter**—The place on the earth's surface directly above the point on the fault where the earthquake began.

**Magnitude**—The amount of energy released during an earthquake. Each whole number is 30 times more powerful than the previous one.

- The largest recorded earthquake in the US was magnitude 9.2 in Alaska, March 28, 1964
- It is estimated that there are 500,000 detectable earthquakes in the world each year
- States with the most earthquakes: Alaska and California
- States with the least earthquakes: Florida and North Dakota
- Earthquakes can occur anywhere, including Antarctica

Source: USGS & FEMA

### What To Do Before An Earthquake

#### Six Ways To Plan Ahead

1. Check for Hazards at work and in the home
  - Fasten shelves securely to walls
  - Place large or heavy objects on lower shelves
  - Store breakable items in low closed cabinets with latches
  - Brace overhead light fixture
  - Repair defective wiring and leaky gas connections
  - Store weed killers, pesticides, and flammable products securely in closed cabinets with latched bottom shelves
2. Identify Safe Places Indoors and Outdoors
  - Under sturdy furniture such as a desk
  - Against an inside wall
  - Away from windows, mirrors, pictures
  - In the open, away from buildings, trees, telephone, and electrical lines, overpasses or elevated expressways

continued

## What To Do Before An Earthquake—Continued

3. Educate Yourself and Family Members
  - Contact your local emergency management office or American Red Cross
  - Teach children how and when to call 911
  - Teach all family members how and when to turn off gas, electricity, and water
4. Have Disaster Supplies On Hand
  - Flashlight and extra batteries
  - Portable Battery-operated radio and extra batteries
  - First aid kit and manual
  - Emergency food and water
  - Nonelectric can opener
5. Develop an Emergency Communication Plan
  - In case family members are separated from one another, develop a plan for reuniting
  - If you are directed or forced to evacuate your current location to an alternate site, please contact NOAA at 1-888-NOAA911
  - Ask an out-of-state relative or friend to serve as the “family contact”
6. Help Your Community Get Ready

Source: FEMA

## What to Do During An Earthquake

### Indoors

- Drop to the ground and take cover
- Stay away from glass, windows, outside doors and walls
- Use a doorway for shelter only if it is in close proximity to you and if you know it's a loadbearing doorway
- Stay in bed—if you are there when it starts—hold on and protect your head with a pillow
- Stay inside until the shaking stops and it is safe to go outside
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may go on
- DO NOT use elevators

### Outdoors

- Stay outdoors
- Move away from buildings, streetlights, trees, and utility wires

### In A Moving Vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires
- Proceed cautiously once the earthquake is over. Avoid damaged roadways

Source: FEMA

## What To Do After An Earthquake

- Be prepared for aftershocks
- Listen to a battery-operated radio or television
- Use the telephone only for emergency calls
- Open cabinets cautiously
- Stay away from damaged areas
- Be prepared of possible tsunamis if you live near coastal areas
- Help injured or trapped persons
- Clean up spilled medicines, bleaches, gasoline or other flammable liquids immediately
- Inspect the entire length of chimneys
- Inspect utilities lines for damage

Source: FEMA



Pictures above are of damage in an office environment caused by an earthquake.

## Tips: Lawn Equipment Safety



### Power Push Mowers

- ⇒ Read the operator’s manual
- ⇒ Don’t disable or bypass safety devices
- ⇒ Read all equipment safety devices
- ⇒ Keep the discharge chute guard in place
- ⇒ Keep bystanders or children away from mowing area
- ⇒ Keep hands and feet away from blades while the mower is running
- ⇒ Never leave the mower running unattended
- ⇒ Stop the engine before adjusting the wheels of the mower
- ⇒ Mow in a forward direction
- ⇒ To ensure good footing, wait until the grass is dry

Source: Stevens Publishing

### Power Trimmers

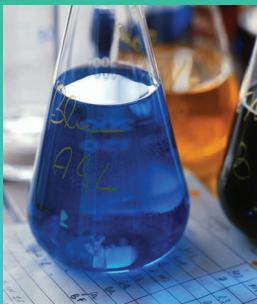
- ⇒ Never operate the trimmer with guard removed
- ⇒ Clean the work area
- ⇒ Always wear eye protection
- ⇒ Keep the cutting line or blade away from the feet
- ⇒ Avoid contact with hot engine parts



### Clothing and Protective Equipment

- ⇒ Wear close-fitting clothes, long pants, and closed-toe shoes with good traction.
- ⇒ Protect your eyes with safety glasses or goggles and wear earplugs
- ⇒ Wear gloves to service or adjust equipment

Source: Stevens Publishing



## Chemicals at Your Work Station

It would be great to keep chemicals out of the NWS workplace. However, in an industrial environment chemicals play an important part in servicing products that must conform to customer expectations. For example a good solder joint is more easily made when flux is applied to a cleaned surface while heat is being applied to make solder flow properly. During the heating process the flux begins to boil off fumes, metal, and the cleaning agent. We see the heated material as smoke coming from the solder junction and iron tip.



There are other chemicals in your workplace that present an invisible hazard that can contaminate the work surface, tools, documents, and the systems being serviced. These contaminants are cleaned up with other chemicals that could create a hazardous mix that may heat up or become violently reactive. Using a Fluoride to clean up a glue containing Ketone could cause a fire hours after the cleaning cloth or paper towel is placed in the trash.

Airborne chemicals and gases can settle on food resulting in accidental poisoning. Poisoning is relative to toxicity and volume of the material ingested. However, the worst involves an accumulation that delays the eventual symptoms while tissue damage is occurring. Absorption can be just a poisonous as ingestion depending on the chemical and your body's ability to resist the damage that is being done.

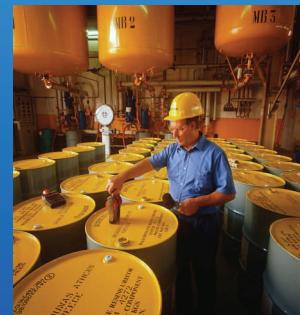
In the previous soldering example, exposure to lead affects primarily the peripheral nervous system and can cause impairment of hearing, vision, and muscle coordination. Lead damages the blood, kidneys, heart and reproductive system. Symptoms of poisoning may include loss of appetite, fatigue, irritability, anemia, and abdominal pain. Lead poisoning often goes undetected because a long period of time can pass before the symptoms begin to manifest themselves. This is why it is so important to ensure that you follow the directions on labels and keep container lids on tight and out of your work area when not in use.

To reduce exposure to chemicals, workers should:

1. Wash hands and face before eating, drinking, or smoking.
2. Eat, drink and smoke only in areas free of dust and fumes.
3. Work with your employer to reduce chemical in the workplace. This may include not ordering new chemicals when chemicals already on site will do the same job.
4. Do not sweep or use compressed air to clear contaminates from a work surface.
5. Don't place food where chemicals have been used.

These suggestions apply to any chemical use in your work area. Eating around even an open container can be hazardous to your health and the health of those around you.

By Mike Terrell (NRC)



### Chemical Safety Fact Sheet

Many people work with and around chemicals everyday that can be hazardous if not used properly. Cleaners, solvents, and detergents are examples of potentially hazardous chemicals when misused. Employees can protect themselves against chemical hazards, by following these safe practices:

- ◆ Always read the labels on products before using them.
- ◆ All chemical products have Material Safety Data Sheet (MSDS) listing the product specific hazard. Learn the hazard of the chemical you are using.
- ◆ Always wear protective equipment (gloves, goggles, mask, etc.).
- ◆ Follow label warnings and instructions.
- ◆ Do not mix chemicals. For example, never mix bleach with ammonia.
- ◆ Store chemicals in original container in a cool, dry place.
- ◆ Make sure chemical containers are labeled properly.

### EPA Tip—Compost Yard Trimmings and Some Food Scraps

On the previous page, we provided tips for lawn mower safety. In this section, we will provide tips to help save the environment by composting of certain food scraps and yard trimmings. This will reduce the amount of waste that needs to be managed by your local government or put in a landfill. Finished compost can improve soil texture, increase the ability of the soil to absorb air and water and reduce the need to apply commercial soil additives.

- \* Learn how to compost food scraps and yard trimmings.
- \* Participate in local or regional programs that collect compostable materials.
- \* If you have a yard, allow mown grass clippings to remain on the lawn to decompose and return nutrients back to the soil.

Source: EPA—Consumer Handbook For Reducing Solid Waste

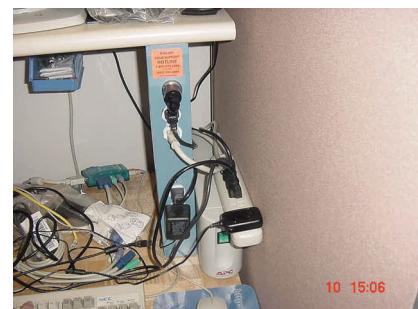
## Protecting Outdoor Workers From West Nile Virus (WNV) Exposure

Introduction	Recommendations For Employers	Recommendations For Workers
<p>The West Nile virus (WNV) is most often spread to humans from the bite of an infected mosquito. There are other means spread by other means but the risk is low.</p>  <ul style="list-style-type: none"><li>* Any outdoor worker can be exposed when mosquitoes are biting.</li><li>* The virus was reported throughout the US by 2004.</li><li>* Mosquitoes develop in any standing body of water that persists for more than four days.</li></ul>	<ul style="list-style-type: none"><li>⇒ Provide training that describes how WNV is transmitted.</li><li>⇒ Stress to workers the importance of reporting all work-related injuries and illnesses.</li><li>⇒ Provide workers with protective clothing and repellents to use on skin.</li><li>⇒ Avoid having workers outdoors when mosquitoes are most active.</li><li>⇒ Recommend that outdoor workers wear long-sleeved shirts and long pants.</li><li>⇒ Eliminate as many sources of standing water from the work site.</li></ul> 	<ul style="list-style-type: none"><li>⇒ Apply insect repellent containing DEET, picaridin, or oil of lemon eucalyptus to exposed skin and to clothing.</li><li>⇒ Use permethrin on clothing only.</li><li>⇒ Carefully follow label directions for repellent use.</li><li>⇒ Spray repellents onto the hands and carefully rub them over your face.</li><li>⇒ Wash skin treated with insect repellent with soap and water after returning indoors.</li><li>⇒ Use protective clothing if you work outdoors when mosquitoes are biting.</li><li>⇒ Wash clothing treated with insect repellent before wearing it again.</li><li>⇒ Do not apply repellent to skin that is covered by clothing.</li></ul> <p>Source: Center for Disease Control and Prevention (CDC)</p>

### A Surprise OSHA Visit For NOAA

On November 1, 2005, OSHA conducted a comprehensive inspection of NOAA's Western Regional Center in Seattle, Washington. OSHA plans on conducting inspections at other federal facilities in the near future. A total of 73 citations were issued and 152 deficiencies were identified. The top five deficiencies are listed below:

- ◆ Improper use of temporary power taps
- ◆ Annual certification of chemical fume hoods
- ◆ Improper emergency eyewash equipment
- ◆ Machine guarding
- ◆ Missing or broken electrical cover plates



Left: An example of improper use of temporary power taps—(i.e. extension cord into extension cord)



Below: Missing or broken electrical cover plates

**REMEMBER, SAFETY FIRST!**



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